

REMARKS

The Applicants thank the Examiner for his careful and thoughtful examination of the present application. By way of summary, Claims 1-42 were pending in this application. In the present amendment, the Applicants have amended the specification, canceled Claims 7, 19-21, and 32 without prejudice or disclaimer, and amended Claims 1, 3, 6, 8, 9, 10, 15, 18, 22, 24-27, 29-31, 33, 37, 39, 40, and 41. Accordingly, Claims 1-6, 8-18, 22-31, and 33-42 remain pending for consideration.

The Examiner objected to the specification for non-compliance with the 35 U.S.C. §112 1st paragraph requirement that the specification is to be written in "full, clear, concise, and exact terms". The revisions in the enclosed substituted specification obviate these objections. Various objections to informalities within the specification have also been resolved in the substitute specification.

Specifically, the Applicants made most of the revisions suggested by the Examiner. However, Applicants did not replace the word "content" with "constant" on Page 3, as such a change would not capture Applicants' intended meaning. Instead, "content" has been replaced with "electrically conductive material".

With regard to reference numbers in the figures that the Examiner indicated were not adequately described, the feature corresponding to each reference number has been described in the specification in connection with earlier figures. For example, the feature identified as reference numeral 6 in each of the subsequent figures, is described in connection with Figure 1 as "an array of via holes". This description applies to each reference to feature 6 in the other figures. In order to comply with the Examiner's request, the statement that "[i]n each of the drawings like reference numerals refer to like features" has been added to the specification. Accordingly, Applicants respectfully request Examiner to withdraw this objection.

The Examiner also made objections to the drawings in the specification. All objections to the drawings have been resolved by amendments to the specification and the claims. The description related to Figure 12 now references features that are shown in Figure 12. Additionally, Claims 19 and 20, which made reference to an antenna array, have been cancelled. Accordingly, the Applicants respectfully request the Examiner to withdraw the objection to the drawings.

Objections to Claims 1, 3, 18, 24, 29, 31, and 37

The Office Action objected to Claims 1, 3, 18, 24, 29, 31, and 37 for minor informalities. In response, the Applicants have revised the claims according to the Examiner's suggestions. Accordingly, the Applicants respectfully request withdrawal of the objection to these claims.

Rejection of Claims 6, 8, 25-28, and 41 Under 35 U.S.C. § 112, Second Paragraph

By this amendment, Applicants respond to Examiner's rejection of claims 6, 8, 25-28, 30, and 41 under 35 U.S.C. § 112, second paragraph. The specific rejections made by the Examiner, and Applicants' response to these rejections, are discussed below.

Claim 6

With respect to Claim 6, the Examiner has stated that the "said non-laminated waveguide" lacks strict antecedent basis. This claim has been clarified, without altering its scope, to "said second waveguide", which has antecedent basis in Claim 1. These claim clarifications are not made for patentability purposes, and it is believed that the claims would satisfy the statutory requirements for patentability without the entry of such clarifications. As such, withdrawal of the rejection of Claim 6 under 35 U.S.C. § 112, second paragraph is requested.

Claim 8

With respect to Claim 8, the Examiner has stated that "...said boundary structure is configured for said boundary structure..." is vague in meaning. Although the claim is correct, the claim has been clarified, without altering its scope, to "...said boundary structure is configured...". Additionally, Claim 8 has been amended to replace "by a model" with "by an equivalent circuit" to clarify the intended meaning. These claim clarifications are not made for patentability purposes, and it is believed that the claims would satisfy the statutory requirements for patentability without the entry of such clarifications. As such, withdrawal of the rejection of Claim 8 under 35 U.S.C. § 112, second paragraph is requested.

Claims 25 - 28

With respect to Claims 25-28, the Examiner has stated that it is unclear what these claims read on because there does not appear to be support in these claim limitations in the specification description. The specification has been amended to include the disclosure of original Claim 25. As the claims are considered part of the specification, no new matter has been added to the specification. As there is support in the specification for these claims, Applicants respectfully

request Examiner to withdrawal of the rejection of Claims 25-28 under 35 U.S.C. § 112, second paragraph.

Claim 30

With respect to Claim 30, the Examiner has stated that the claim appears to be redundant since the method steps recited herein are already encompassed by the recitations in independent Claim 1, from which Claim 30 directly depends. However, Claim 1 relates to an apparatus. As such, the claim cannot directly cover any physical method steps. In contrast, Claim 30 relates to a method in which electromagnetic waves are transitioned from a first waveguide to a second waveguide within the apparatus of Claim 1. Accordingly, Claim 30 includes the additional limitation that the apparatus is actually used. Withdrawal of the rejection of Claim 30 under 35 U.S.C. § 112, second paragraph is requested.

Claim 41

With respect to Claim 41, the Examiner has stated that reference to “a same substrate as said first waveguide” is vague in meaning since no “first waveguide” was strictly defined. However, Claim 41 depends from Claim 37, and a “first waveguide” is clearly defined in Claim 37. The language of this claim has also been clarified without altering its scope. Accordingly, withdrawal of the rejection of Claim 41 under 35 U.S.C. § 112, second paragraph is requested.

Applicant respectfully requests the Examiner to withdraw the rejection of Claims 6, 8, 25-28, 30, and 41 under 35 U.S.C. § 112, second paragraph.

Rejection of Claims 1-3, 6, 11, 22-24, 29, 30, 31, 36, 37, 38, and 42 Under 35 U.S.C. § 103(a)

The Office Action rejected Claims 1-3, 6, 11, 22-24, 29, 30, 31, 36, 37, 38, and 42 under 35 U.S.C. § 103(a) as being unpatentable over the Uchimura publication no. 1340701 (“publication”) in view of U.S. patent no. 5,982,256, issued to Uchimura et al., (“the ‘256 patent”). The Applicants have responded to his objection by amending Claims 1, 31 and 37 to include the limitation of original Claim 7. The Examiner had no objections of Claim 7 over the prior art. Accordingly, the combination of references cited by Examiner does not disclose or suggest that the “said boundary structure along with said transition interior is modeled by an equivalent circuit with at least two cascaded resonators”. As a result, Claims 1, 31, and 37 are not obvious over any of the two references or a combination thereof. Claims 2-3, 6, 11, 22-24, 29, 30, 36, 38, and 42, which depend from Claims 1, 31, and 37, are believed to be patentable for the same reasons articulated above with respect to Claims 1, 31, and 37, and because of the

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additional features recited therein. Accordingly, withdrawal of the rejection of Claims 1-3, 6, 11, 22-24, 29, 30, 31, 36, 37, 38, and 42 under 35 U.S.C. § 103(a) is requested.

In addition, please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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By: Daniel Altman
Daniel E. Altman
Registration No. 34,115
Attorney of Record
Customer No. 20,995
(949) 760-0404

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